Management Intensive Grazing cover crops with Spayed Heifers

Carmen Willmore, Lauren Golden, Joel Packham, Steven Hines and Pat Purdy

Producers are showing a greater interest in cover crops as a forage source for grazing livestock. Cover crops can be intensively managed as a high-quality forage source, but with some caution and considerations. In a recent Western SARE project, a Blaine County producer was looking at the use of cover crops as a forage source for stocker cattle from June – October. The targeted outcomes of the project were to determine how to integrate cover crops as a rotation, management intensive grazing (MIG), and no-till into a mustard, alfalfa, cereal grains crop rotation. To accomplish this, a 148-acre pivot was seeded using a no-till drill with a cool-season mix of forage barley, forage oats, forage peas, common vetch and purple top turnip the second week of May. Following the first grazing of the cool-season mix the producer planted a warm-season mix to add additional late summer forage and to provide high-quality fall grazing. This mix was no-tilled into the grazed paddocks starting July 1. To implement MIG, 213 heifers of an average weight of 600 lbs. were incorporated into the system 40 days after the initial cool season seeding. Forage samples were collected from the pasture prior to and immediately after grazing. Dry matter production and forage quality were determined from the samples collected. Estimated forage production was 6,020 lbs. DM/acre over the growing season. Forage consumption per acre over the season was 2,408 lbs. DM/acre. This is a low estimate due to insufficient stocking rate but is based off 40% of available forage with an average intake of 2.5% body weight. From June-July the forage provided 16.2% crude protein (CP) and 58.6% total digestible nutrients (TDN), meeting the requirements for a 600 lbs. yearling gaining 2.5 lbs./day for protein (11.8%) however it was lacking in TDN (66%). Technical observations of cover crop growth and response to grazing indicated the warm season mix was not needed and wasn't able to compete with the regrowth from the cool season species to significantly contribute to the forage dry matter. In the cool season mix, the cereal varieties responded well to grazing and would send up new tillers in response. As the grazing season progressed feed value did drop and in August averaged 9.3% CP and 61.4% TDN. The feed currently was lacking in both CP and TDN for an 800 lbs. yearling at 2.5 lbs./day gain requiring 9.7% CP and 66% TDN. On August 24th, 2017 the cattle were weighed, and 68 head were shipped averaging 805 lbs./head. The remaining cattle were put back on the cover crop field with an additional 42 head for a new total of 184 head. The final group of cattle were weighed off on October 10, 2017 with an average gain of 2.6 lbs./day for 47 days. Using cover crops in a management intensive system is a novel idea but if executed well can give you good gains on growing cattle while benefiting your fields. In this project we saw adequate gains from spayed heifers while maintaining a growing cover crop from June – October. In subsequent years soil health measurements will be collected to determine long term impacts this system will have on the fields productivity. We would like to acknowledge much of this information are a result of a Western SARE Farmer/Rancher Research and Education Grant and would like to thank the Purdy family and Picabo Livestock for sharing this information and knowledge.

NACAA AM/PIC Abstract, September 2019